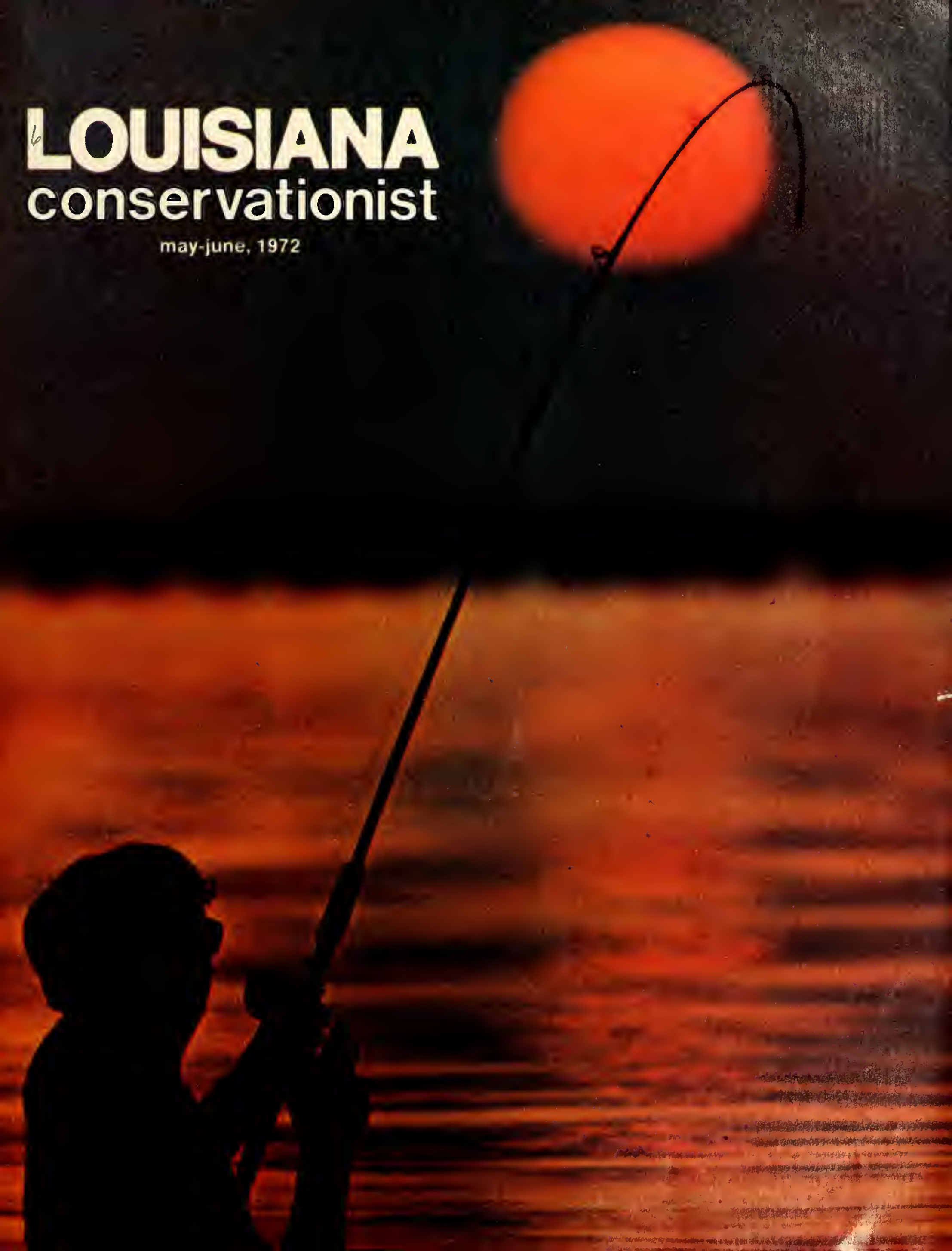
LOUISIANA conservationist

may-june, 1972



...comments

Clark M. Hoffpauer

The Gods do not deduct from man's allotted span the hours spent in fishing . . . . .
—Babylonian Proverb

The proverb mentioned was a favorite one of Herbert Hoover and he used it on many occasions, because fishing was his favorite form of recreation whenever he could take a few days off from affairs of state. Many persons have interpreted this ancient proverb in different ways. Some even take it to mean that an individual's life span is increased if he participates in some form of fishing from time to time.

This could be true to a certain degree, because there is almost total relaxation during a fishing trip. It is true of a session with bluegills, and it is equally true of an hour-long battle with a tail-walking, leaping tarpon putting on an aerial show before it is finally brought to gaff.

When it comes to fishing billfish, that time spent in the fighting chair may run into several hours of strenuous physical exercise. Battling a big fish can be exhausting from a physical standpoint, but after the fish has been boated or lost, the big game fisherman shares the same general satisfaction as the fellow who has had a less vigorous morning of bream fishing.

The point that I want to make is that millions of Americans in all walks of life readily agree that fishing is relaxing and about the best tonic that could be prescribed for mental fatigue that is the result of the fast-paced present day world, with its many complex problems and day-to-day cares.

We have entered what might rightfully be called the three big fishing months of the year. There are numerous fishing contests in all parts of the state. They range in participation from what might be termed relatively small contests to the huge coastal fishing classics where as many as 27 species of salt water game and food fish may be eligible for trophies and special honors.

This will continue into the first weeks of September. There is hardly any area of the state where weekends will not find sponsoring organizations conducting some sort of fishing rodeos or tournaments.

If a survey was made on a national level, I feel certain that Louisiana would be among the leading states, if not the leading state itself, as far as the number of competitive fishing tournaments and contests is concerned.

There is hardly a single weekend during the warm summer months when one is unable to participate in a fishing rodeo, or some sort of angling contest. On special holiday periods such as the Fourth of July and Labor Day, there are usually four or five scheduled. About all that fishermen who follow the fishing rodeo trail must decide is what particular rodeo they wish to enter.

During the 1970–71 fishing season a total of 350,054 angling licenses were sold. Of this total, 326,723 were resident licenses; 6,341 were season non-resident licenses; and 16,900 were non-resident seven-day trip licenses. The figures naturally do not contain license-exempted cane pole fishermen who are estimated to number in excess of 400,000 in the state; nor do they include those young anglers who have not reached their 16th birthday, or persons who have reached 60 years of age and are issued permanent free permits.

These figures clearly indicate that hundreds of thousands of persons in Louisiana will be engaged in fishing during the next few months; although the unexcelled angling that Louisiana offers is by no means confined to the summer months. Fall, winter, and spring fishing is just as good.

The state's offshore salt water fishing is greatly enhanced by the several thousand offshore gas, petroleum and sulphur platforms. Inland fisheries are being greatly enhanced as a result of research and experimentation with species such as the striped bass. Introduction of these fish into some Louisiana waters is now starting to pay off in relatively large stripers being boated.

We are fortunate, almost to the point of being spoiled in Louisiana when it comes to fishing, but if it is true that the Gods do not deduct from man's span the hours spent in fishing, they certainly make the most of it whenever the opportunity presents itself.

LOUISIANA conservationist

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and minerals, its forests, waters
and wildlife.

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May and June of each year are prime months when Louisiana anglers rush out in numbers after . . .

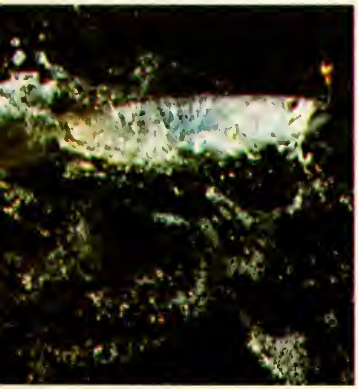
those freckled favorites!

Photography By Lloyd Poissenot
Story By Frank J. Davis

Happiness is hooking a "grand-daddy trout," a ferocious fighter that more often than not will wind up a trophy on a living room wall. There is no mistaking the strike and fury of a big speckled trout, and the sight of churning water alone thrills the angler at the other end of the fight.

"Gentlemen: It is with deep regret that we inform you that the speckled trout is . . . well, is not a true trout at all! It is a weakfish, of the family Scianidae, which includes croakers, redfish, drum, and spot! However, if this news upsets you too very much you may continue to refer to the fish as a speckled trout!" Certainly, there are few avid speckled trout fishermen who would become distraught over this notice were it ever actually posted at fishing camps, bait shacks, or sporting goods stores. Because the truth of the matter is the so-called "speckled trout," one of Louisiana's most sought-after saltwater species (according to a recent fishing survey), is known by a host of names. And whether you call him speckled trout, spotted weakfish, spotted sea trout, speckled weakfish, speckled sea trout, or, more commonly, "spec," he remains the ultimate in angling—and dining—pleasure and is truly a freckled favorite.

Fishermen are informed and have been for years that the prized fish is a native of the coastal waters, all the



Bob Dennie

LEFT—Even thrashing around in the water, trout are not difficult to identify, and usually the first glimpse of a nice-sized speck on the other end of the tackle increases a fisherman's anticipation to get him aboard. TOP, CENTER—Surf-fishing for speckled trout, an entertaining and effective method of angling for the species, is fast gaining popularity in Louisiana. Most surf fishing, however, because of Louisiana's geographical particulars, is restricted to certain areas such as Grand Isle and the islands in the Gulf of Mexico. But surprisingly enough, these areas do not lack in fisherman populations each summer. RIGHT—Depending upon the viciousness of the strike, baited hooks and lures could end up anywhere in the fish's mouth. Trout hooked in the tender portion of the mouth often tear tissue and get away, but those that swallow the lure or bait usually become the entree on a gourmet's table.

way from New York to Mexico. However, Louisiana and the Gulf states reap the greater portion of this blessing since the spotted sea trout is found in the greatest abundance in these latter locales. And it is a hard core fact that in Louisiana more fishermen have spent more time going out after speckles than after any other kind of fish, including catfish, flounder, and red snapper.

Proof of popularity of the fish manifests itself in that the species has become a familiar one even to the non-fishing public. Mention that you are going fishing to anyone who has never fished in his life and the first question he ask is, "What are you going to fish for? Trout?". Although many of these persons could not tell a speckled trout from a guppy, they are familiar with the name, kind of like nobody would recognize Jesse James from your brother Harold but they have heard the name before.

Actually, the fish is not a difficult one to identify. For all practical purposes he might be called "streamlined," his overall appearance and body shape resembling a sleek, slender, elongated oval with teeth. His almost torpedo-like shape makes him a strong and powerful swimmer, in turn responsible for the vicious battle he puts up when hooked.

Iridescent in color with a dark bluish-black or grayish-silver back, shading to silvery white on the undersides with fins of pale to yellowish green, the speckled trout is marked with many round black dots which extend over the dorsal and caudal fins. His lower jaw is protruding, contrasting sharply with the upper jaw that projects two very conspicuous teeth called "canines."

The anatomical structure of his mouth and the tissues inside are what give rise to the dubbing of "weakfish," and the term does not mean the fish as a finned fighter is week. Many an angler will attest that "rassling" a speckled trout is the best way to lose him. The tissue in the mouth of the species is tender

and thin, and any hook not properly set or any sharp jerking motion will rip tissue and hook out, setting the fish free and bringing over the angler a feeling of rank disgust at fishing incompetence.

Speckled trout certainly have no limitations when it comes to reproducing the species. The fish is extremely prolific, a good news item for fishermen worrying about running out of speckled trout to catch, since larger trout are capable of producing up to a million eggs or more. Ichthyologists agree that even average three year old trout generally produce about 300,000 eggs, and investigations have proven conclusively that at least a third of them develop sufficiently for fertilization at spawning time.

Fishermen are interested in some of the trout's habits, since the more they understand about these finned fighters the better are the chances at catching more of them, which is all an avid trout angler—next to eating-is concerned about anyway. Most pertinent along the lines of habit comprehension are prime habitat, species peculiarities, fish tendencies, favorite foods and preferred baits, affecting weather conditions, and, most importantly, "how to catch 'em."

It is knowing the likely spots where speckled trout might be taken that makes the difference between catching fish and not catching fish, sportsmen say. And it is not uncommon for die-hard trout fishermen to traverse miles of inland waterways in an attempt to track down the popular species. LEFT—Most anglers agree that fishing early in the morning is important for a successful day afloat. There are those who have lines overboard long before the morning sun ever peeks out from behind the horizon.

Briefly then, these points are dealt with for the benefit of all Louisiana's trout fishermen. Detailed studies show the spotted sea trout is a fish of coastal waters and not often do the species venture too far offshore, except possibly when fall months chill water temperatures down to a point not to their liking. Even in winter months, though, most trout populations in coastal Louisiana and the proximal limits of the Gulf of Mexico tend to occupy deeper holes scattered about within shallow waters near shore. However, they do, at times, frequent some offshore areas, particularly under and around oil rig platforms that serve as artificial reefs, providing the fish with food and shelter. But for all general purposes, their primary home in Louisiana is the warm, coastal shallows, the cuts and passes, the large bays and lagoons, the brackish lakes and streams, and all along the surf-torn beaches.

Springtime finds the fish migrating back along the shorelines, and their preferred environmental condition includes an area of less turbid grassy bottom where much of their favorite foods is available.

Speaking of favorite foods, spotted sea trout studies indicate they prefer above all other things shrimp, but they will not readily pass up small crabs, menhaden, shiners, minnows, silversides, grass shrimp, pigfish, and mullet. The fish is a voracious feeder and will strike at nearly anything that moves, a peculiarity that compels him to take

LEFT—While the use of live and artificial baits usually discourage nibbling by many unwanted species, they sometimes also produce strikes by species not being fished for but equally as desirable, like this flounder that ended up on ice after swallowing a live shrimp. ABOVE—Weakfish, the speckled trout's true family name, is not a "weak fish" at all. He is termed such because his mouth tears so easily in a good struggle. Therefore, most fishermen, in order to keep the big ones from getting away, employ a landing net as soon as the fish comes near enough to the boat.

such a wide variety of artificial baits from spoons to spinners to plastic worms.

One exceptional peculiarity concerning his feeding habits is he will often strike and eat a fish maybe a half to two-thirds as long as his body length. There is the account of a trout found with a 14-inch mullet inside, unusual when one considers that the trout measured only 21 inches. Outdoor writer Grits Gresham wrote once that "big trout taken in gill nets frequently contain mullet so large that several inches of the mullet's tail protrude from the trout's mouth."

What do you suppose this does to affect angling for the big fish? Well, considering that two or three days is required for a speckled trout to digest a mullet this size, and considering that a trout that feeds on fish this big would have to eat perhaps only ten to fifteen times a month, chances are an angler out to get the really big ones would have a slim chance of hooking these freckle-backs (unless his line just happened to be connected to the big mullet the trout hits one out of ten times that month).

But this is not a case for alarm. Usually, trout between two and six pounds are readily caught in Louisiana, and most do not hestitate to strike a baby croaker, live shrimp, or menhaden. There are enough to go around, especially after spawning season each year.

Do you realize that the spawning months are the prime speckled trout fishing months every year? Spawning begins usually in early spring and continues into early fall, but the peak periods are May through June, the two best months for angling for specks. It is noted that speckled trout eggs will hatch in 36 to 40 hours when water temperature remains a constant 68 to 70 degrees Fahrenheit. Studies show that young fish spend their development time in the protected beds of vegetation in inland waters, feeding upon small crustaceans and learning to be favorite targets of the fisherman. There they remain until the approach of winter; then they travel into deeper waters since they are very sensitive to cold temperatures.

Two other interesting points are, (1) male trout do not grow as rapidly as do females, and (2) trout can tolerate a very wide range of water salinity, accounting for those that have been caught in freshwater as well as saltwater. Keeping all this in mind, there is but one thing left to ask, right? "Where and how do I catch them?"

That's easy . . . if you are in the right spot at the right time. The only difference between catching speckled trout and not catching speckled trout is knowing likely places where specks can be taken. Of course, tide, and water condition, and weather do have some effect on the overall fishing situation, but with any luck and a little technique some fine specimens will be caught nearly every time out.

What makes the speckled sea trout a "freckled favorite?" Many things! Specks are numerous and abundant in Louisiana, they are not tackle-poppers but offer the fisherman that dare-you-to-tear-the-hook-out challenge, they never nibble and always strike, and they rival the flavor of the tastiest catfish when fixed in gourmet fashion.

From Grand Isle, where anglers fish

the surf, to the Chandeleur Islands to Last Island in the Gulf, to the bridges at Rigolets and between North Shore and South Shore in Lake Pontchartrain, to the shell reefs at Barataria Bay, the speckled trout is pursued by saltwater anglers like largemouth bass is tracked by freshwater dibblers. Though May and June are peak fishing months, May through September is equally as good for catching speckles. And fishermen are out after them in numbers.

Back in 1939, the Louisiana Wild Life and Fisheries Commission recorded the sales of 27,096 fishing licenses. As of the end of 1971, the Commission recorded in that year the sale of 350,054 licenses, and you can bet your boat and motor a large percentage of these license holders took their share of trout last year and are back at it, probably this very weekend.

The popularity of speck fishing goes all the way back to days when "slaughter pole" (cane pole) fishing the reefs from skiffs was the primary mode of taking speckles. It is not questionable that that form of trout fishing was extremely productive, since old-timers swear that "in those days when we ran out of bait we used pieces of hankerchiefs and caught just as many that way."

The advent of the light-tackle spinning rod and reel, however, made trout fishing more exciting from the standpoint of the fight the fish puts up when hooked, and statistics indicate that even greater numbers of trout, much more than those caught commercially, are being taken by this method of sportfishing over the slaughter pole.

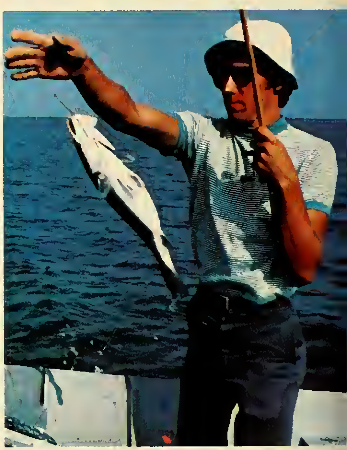
Whichever mode is preferred, it all boils down to catching them. Three ways to fish for speckled trout are standard, although there are some anglers who walk railroad trestles, hike across bridges, and invade oil company canals just to fish for the popular species.

The three standard ways include still-fishing, surf-fishing, and trolling, but it is debatable which form is best, if any.

Still-fishing from a skiff, flatboat, or hull usually is done by means of casting for trout, using either live bait or artificials. Anglers who prefer this form of trout fishing use live shrimp, live minnows, or baby croakers for bait, or utilize the technology built into artificial metal spoons, plugs, or plastic baits to induce trout to strike. Depending upon whether the trout are feeding at the surface or on the bottom, still-fishing anglers fish the feeding depths.

If they use live bait and if the fish are feeding near the surface, fishermen will use either a cork or the hook and bait alone without any sinker. This will keep the bait up where the trout are and should produce regular strikes and good angling action. When the trout are bottom-feeding, a sinker, preferably the sliding type, should be attached to the line for successful fishing attempts.

Artificial baits used in the casting methods usually are used without sinkers and are fished top or bottom depending on where the fish are feeding. Regulating speed of the retrieve will keep the artificial lure top or bottom in the water (slow retrieve for bottom bouncing, fast retrieve for top fishing). Note that the secret to it all is finding where the fish are feeding. Also keep in mind that trout feed on the bottom as well as on the top and not necessarily in a pattern, i.e. just because they were on the surface yesterday is no reason why they would be on the surface today. Too, every fisherman has his own techniques and his own secrets that work for him, and some work better than others—or so they believe.



TOP, LEFT—Although trout prefer live shrimp, purist fishermen increase the sportiness of it all by angling with artificial lures. The right lure properly used could result in an ice chest loaded down with four to six pounders. CENTER—Besides providing someone to fish with, the "buddy system" of trout fishing gives cracker-jack anglers that opportunity to brag, "my fish is bigger than your fish!" ABOVE—Anglers too much in a hurry to net large speckles take big chances of losing them by swinging them aboard. Long-time trout fishermen attest that it is only the fish hooked in the bony portion of the mouth that may be brought aboard safely in this manner.

Trolling, another popular form of trout fishing, is accomplished by pulling a lure or plug behind a boat with the motor running in dead slow position. Some anglers trail plugs long distances from the boat, while others troll relatively close to the boat. The choice is up to the individual angler, but keep

in mind that to fish deep, troll slow; to fish near the surface, troll faster. The objective remains . . . "find the trout and fish there."

The other most accepted manner in which to fish speckled trout is one fast gaining popularity in Louisiana—surf fishing. However, since Grand Isle is one productive area which is so easily accessible by automobile, offering true-style surf fishing, it is fast becoming a hot-spot for surf fishermen.

Once, surf fishing was almost the exclusive property of the other areas of the country (the Atlantic and Pacific coasts), but the sport is catching on here now, and is not as complicated as fishing the ocean surf. Nearly every summer, fishermen flock to Grand Isle. And in old tennis shoes and Bermuda shorts, they walk out into breaking waves with spinning rod and lures and cast into the surf, hoping to drop a metal spoon or shrimp-like plastic artificial in front of a cruising trout roaming the shallows.

Certain Louisianians, those more afflicted with the trout fishing malady, fly to islands out in the Gulf to do surf fishing. And others, who long ago made a deal that they would not fly if birds would not walk, spend long hours riding by boat to these islands . . . just to fish the surf. No doubt, the sport is growing, and for good cause. It is a very effective way to land some nice-sized speckled sea trout!

The truth of the matter is all three methods produce fine catches of trout. The preference is up to the individual fisherman. Primarily, it must be recognized that the habits and peculiarities of the trout determine whether or not the fisherman will fill an ice chest. There are no secret baits, no time-tested techniques, no sure-fire methods, and no specially designed trout tackle that will catch only the biggies! Go trout fishing, fish as the veterans do, and you will know when a six-pound hook-jerker strikes your bait!

Is that all there is? Not quite. Assuming you are a good fisherman and have been at the right spot and loaded up with trout, you are in for one of the tastiest meals this side of the Ritz.

Trout come in what anglers affectionately label "models." There are the "cigar trout," those that fit the smaller weight and size range and are excellent for pan frying whole. Next come the "hotel trout," the larger size of about two or three pounds, called such because hotels buying speckled trout commercially prefer this size since chefs make two meals out of one fish. And finally, there are the "granddaddy trout," those that usually go eight pounds and over and end up as trophies on a living room wall. Of course, those fish between the "hotel" and the "granddaddy" models usually are the "eating kind," finding their way into frying pans or broilers or ovens.

Easy to scale and even easier to fillet, the flesh is white and firm and delicately flavored to perfection, offering taste attraction to please the most particular gourmet. Some connoisseurs say smaller trout are the tastiest; others prefer larger trout. Again, this is debatable and seems to depend upon individual preference.

As long as there are fishermen, there will be those who prefer flounder. And there will be fanciers of red snappers. And there will even be a large group of anglers priding themselves on fishing for nothing but croakers. But always there will be a majority, a very large majority, who no matter what else might be tearing up tackle will be out in great numbers after those freckled favorites.

Wherever soil is not totally sufficient to support plant life, sundews grow in abundance. They may be found almost hidden in high grasses where insect life teems.

Held in the hand to show relative size of a rather large sundew, it is apparent that the carnivorous species is an efficient organism that performs its task well. Botanists say that species that are exposed to strong sun tend to become more red in color than those that receive more shade, but all perform as effectively.

Sprouting from a center pod, the sundew extends circular trap pads in star-like fashion that hug the ground. Each pad is covered with hundreds of tiny tentacles that secrete sticky juices and are instrumental in capturing and devouring insects. The juices, glistening like dewdrops in the sun, seem to sparkle with brilliance, thus giving the sundew its name. Note the ant captured in the center pod.

Right—Standing tall and stately amid the acid bog, almost as if they were peeking over the top of the high grass, pitcher plants sway gently in the breezes like cobras moving to notes on a flute. Quietly and inconspicuously they wait for "what's coming for dinner."

Opposite Page—There are nine species of pitcher plant and because they hybridize so readily exact identification except by an experienced botanist is often difficult. However, the plant can be recognized by the untrained observer, but only if he looks for it as it poises almost camouflaged between tall, overgrown grasses.

potluck POSIES

STORY BY FRANK J. DAVIS

PHOTOGRAPHY BY LLOYD POISSENOT

REMEMBER that trusty, old, stand-by scene from the Tarzan movies where the villainous English diamond smuggler, being chased through the jungle by revenging Watusi warriors led by the Ape Man, fights his way exhaustingly through the thick underbrush and in the end falls smack-dab into a monstrous, ferocious, tentacled, man-eating plant?

Certainly, this traditional ending to the jungle flicks produced the desired effect on youngsters who were Tarzan and Watusi fans, graphically illustrated that it was not very profitable to smuggle diamonds anywhere near man-eating plants, and, of course, sold box office tickets. Nevertheless, everyone then as now realized that although this was a convenient way to end a movie, aside from theatrical mechanical engineering there are no such things as man-eating plants . . . are there?

Man-eating plants, no. But plants that eat other forms of living protoplasm, yes! In nature there does exist a reversal, a unique phenomenon, in which a form of plant life instead of serving as food for the insect kingdom utilizes the insect as its supplemental food.

Scientists refer to the members of this botanical order as "carnivorous (flesh eaters) or insectivorous (insect-eating) plants," and though it is not generally known, several forms of these insectivorous plants, fascinating in every respect, are common to Louisiana.

Droseraceae and sarracenia are Latin scientific-technical names for two genera of Louisiana's "plants that eat insects." The former includes all the species of "sundews," and the latter takes in the several species of a variety called "pitcher plants." Although a few other forms of insect-eating plants grow in the state, only sundews and pitcher plants are found so abundantly and are so easily recognizable.

Sundews, when compared to the many other varieties of insectivorous plants, are the most beautiful and delicate species of them all. Inconspicuously they grow flat on the ground, extending miniature pods in circular fashion and trapping a la carte supplements to their deficient diets.

Pitcher plants are of a more stately design, standing amid tall grass and weeds, almost camouflaged, and waiting patiently to discover "what's coming for dinner." Yet they, too, like sundews, must be looked for in order to be found, since a visitor to a wooded bog would likely pass over pitcher plants without ever giving them second consideration, much less identification.

This though, brings about a curious point: once man realizes that there are plants that eat insects—how strange!—he begins to look for them, almost if drawn by the seeming abnormality of it all. It is at this point that the intrigue, the fascination, the must-see-for-myself principle takes hold. Charles Darwin paradoxed in the 19th century that, "When insect eats plant, gardener becomes very annoyed; but when plant eats insect, gardener becomes very, very interested!"

The Venus Fly Trap, not common or native to Louisiana yet one of the many insect-eaters and often regarded by novice horticulturists as the only insect-eater, has spurred interest since it was first identified and observed.

"How odd that a plant should eat an insect," the remarks must have been at first sighting (and probably every sighting thereafter). Since science-fiction writers employ so-called "natural exaggeration" to give birth to many a movie plot or ending, whichever the case may be, it is assumed by most botanists that it was the function of the Venus Fly Trap that initially brought about the concept of that theatrical monstrosity that gobbled up diamond smugglers on Hollywood sets.

However, the Venus Fly Trap remains not the only one of a kind. There are many insectivorous plants. In addition to Louisiana's sundews and pitcher plants, there are species that perform such unusual practices as lassoing their prey; there are others, like the large cobra plant, that trap and eat small mice and birds; and there are a few that snap their leaves shut on unwary flies, bees, and other larger forms of life. Sundews and pitcher plants are native to Louisiana, but all carnivorous plants react

Top Photo—The insect-trapping properties of the plant are enhanced in that the species appear to grow in clusters on the ground. Often it is not uncommon to count as many as 200 individual plants congregated in one small section of earth, and usually these plants capture a great deal of insects that frequent the area. Seemingly, nature, even on a small-scale level, maintains her balance.

The fascinating little plants are not to be fooled. Unless it is organic matter that lands on the pods, the tentacles will not react, the juices will not form, and the highly-active species will remain passive. Repeated poking with the tip of the pencil produced no reaction within the trap pads. (Photo by Bob Dennie)

Sundews, "active predators" in that they physically act to ensnare their victims, grow inconspicuously in acid bogs and are often not noticed by persons not aware of their presence.

Flowering portion of the sundew consists of a delicately-stemmed five-petaled white flower that grows from the ground pods to a height of about eight to ten inches. Flowers blossom out in early spring but soon disappear, leaving only the feeding portions of the plant.

in the same manner for the very same thing, though many physical techniques vary in the different species.

Carnivorous plants, more than the 400 different kinds recorded by modern botany, all live in swampy areas where the soil in which they are rooted is not sufficient to sustain their life. Mostly, the ground supporting insectivorous plants lack life-giving nitrogen and phosphate, essential elements for plant life. So nature, rhetorically, in her effort to sustain what she has created, equips insectivorous plants with a mechanism that can extract nitrogenous and phosphorous substances from other available sources, specifically other living forms that become prey for the plants.

Basically, there are two kinds of insectivorous plants: the first type catches insects, digests the nutrient portions, and discards the remains; the other type absorbs the entire insect, utilizing not only the nitrogenous supplements but all others in which its diet lacks. This is the "reversal of nature," where instead of the plant being food for the insect, the insect is food for the plant.

The question is often asked, "Then are insectivorous plants vicious predators, seeking out their prey?" The only answer here that satisfies the question truthfully is yes . . . but then no!

Some insectivorous plants are passive. Their physical structure is such that they indeed are "one-way traps" in which prey cannot escape. The great variety of pitcher plants is such that some are not even one-way traps, since there are a few insects that walk in and out of the plant, being caught only if they are unlucky enough to drown in the fluids at the base. Yet these pitcher plants are forms of the passive carnivorous species, doing nothing physically to capture their victims. Dinner for members of the "passive" order, such as pitcher plants, truly is "pot luck".

Then, too, there are active species, forms like the fly trap, the butterwort, and the sundew, which actively seize and hold their prey. For instance, the fly trap snaps shut when an insect crawls into the pod; the butterwort wraps gummy leaves around its prey like corn shucks around a tamale; and the sundew secretes sticky juices to hold its prey while tentacles curve over to devour its captured food.

Equally as fascinating is the manner by which carnivorous plants know "what's coming for dinner." One botanist who was commissioned to do intensive research on the carnivorous species affectionately labeled the little plants "potluck posies." He explained that unlike other forms of predators, carnivorous plants could not be choosey in deciding what entrees would be featured on the menu. Whatever happened to become trapped in the plant or whatever would stumble into the sticky pods is what the plant utilized for supper. "In other words," he laughed, "they settle for pot luck."

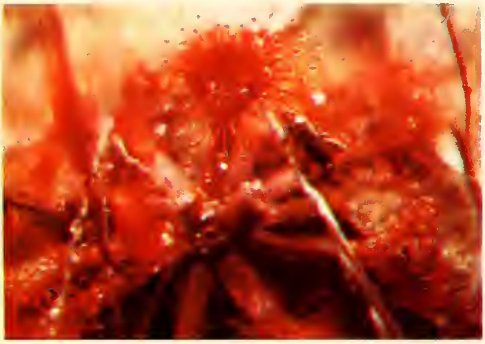
Research makes one wonder, however, if it really is all potluck. True, carnivorous species can not retract their roots and chase down dinner, but they have other methods of eliminating the undesirable in dining cuisine. Not a hit or miss process, the plants lure in supplemental food by tempting scents and odors used in combination with naturally attractive colors. Some species give off fragrances of violets, roses, and even sweet honey.

Anyone who has walked up on a carnivorous plant remembers it forever. The plant stimulates interest. In Louisiana, where the sundew and pitcher plant can be found in nearly any acid bog lacking the nitrates and phosphates necessary to support carnivorous plant life, the insectivorous species is not tramped down by man, but rather protected.

Many a hunter, backpacker, or naturalist out for a day in the woods became distracted from a normal mode of concentration when pitcher plants and sundews were found. And because sundews and pitcher plants may be found in Louisiana from Angie to Grand Isle, they invariably demand this interest, not hard to comprehend once the function of the plant is explained.

Although sundews are delicate, possessing a beauty all their own, they are nevertheless treacherous little plants. Anatomically, the species, of which there are 90 varieties, is a dewy, circular plant that often grows to a diameter of two inches, though most never get larger than an inch across. Shooting up from a center stalk, the insectivorous sundew sends out miniature leaves in a rosette pattern, all of which hug the ground in an inviting "open arm" position.

Each bright green leaf ends in a reddish-pink disc called a trap pod, and these pods are circular in appearance. Innocent enough they seem, but here is where the treachery lies. Every pod supports hundreds of tentacles, small but deadly, that stand erect and waiting. At the tip of each tentacle is an oval droplet of crystal clear liquid, like a mucilage, that reflects the sun's rays and serves as the sticky, gummy substance that holds prey secure. It is from this shiny sparkle, like dewdrops glistening in the sun, that the sundew derives its name. This final attracting sparkle, that come-on-to-my-house invitation it gives, is the secret holding power of the plant.

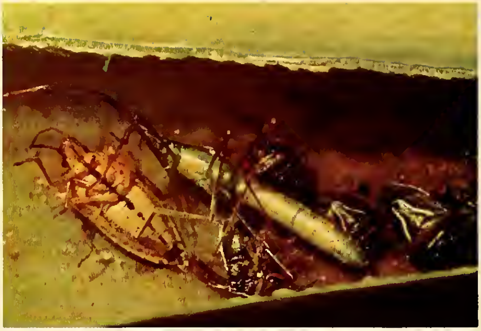


Ready and waiting below with droplets of mucilage moist and inviting, the sundew poises motionlessly, preparing for the insect that rests in curious attraction on the dried grass blade above. Inevitably, the insect will hop down on the sparkling leaf pads and find itself ensnared. The more furiously it will fight to escape, the more excited the plant will become and the more juices the pod will secrete. Finally, the tentacles will bend over the helpless insect and begin to digest the prey, another "potluck" meal.

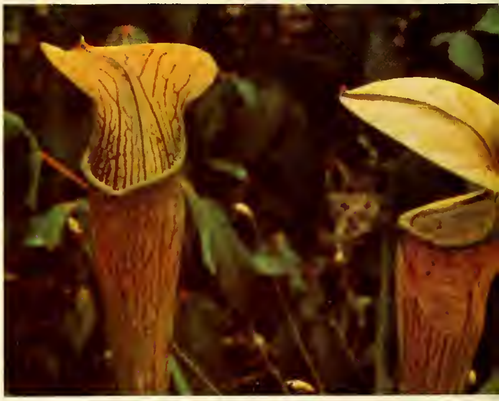
To add further intrigue, the sundew (Drosera rotundifolia, meaning dewy and round) poises in clusters on the ground . . . motionless . . . seemingly inactive . . . until "supper comes along." An insect, an ant, say, is attracted by the plant's delicate fragrance and the sparkling colors and crawls atop the pod. At that moment, the plant reverts from innocent to treacherous. Botanists say studies show the sundew becomes excited over its potential meal, and its excretory glands at the tentacles' ends excrete more sticky paste. The ant is captured, and will become more ensnared the harder he struggles!

In addition to manufacturing the glue-like substances, the tentacles play yet another role in the complex organism. They now begin to bend inward, wrapping around the imprisoned ant with a curving of the leaf pod, and they begin to feed on the ant with digestive juices, using the extracted substances from the prey to make the total plant healthier. This is a prime example of complete union with the system, where each leaf pod works for the good of the whole plant.

Digestion in the sundew usually takes four to five days,



In cross-section, this is typical of the potluck dinners on which the pitcher plant survives. Decomposed and previously utilized insects can be seen at the extreme right, while the newer additions to the grocery pantry lie dormant in the center of the photo.



Over the lip of the enlongated trumpet the plant grows its hooded lid. In addition to keeping the cone from filling with water during a rain storm, the hood contains on its underside glands that secrete some of the sweet odor that attracts insects.

and as the ant struggles to escape, the little plant becomes more and more excited, excreting more and more digestive juices. Outer tentacles curve and hold supper fast to the pod, and sometimes the curvature is so great the entire leaf pod doubles up like a clenched fist.

When all the nitrogenous portions are extracted from the meal, the sundew relaxes its death hold and its digestive juices and sticky paste disappear. Finally, any slight breeze will blow the skeleton of the ant away, and immediately the tentacles will erect themselves, mucilage will form, and the leaf will be readied to capture another insect.

A very unique point here! This living, functioning, predatory form of life can not be fooled. In 1875, Charles Darwin, England's most famous biologist who later in life came up with the controversal Theory of Evolution, became seriously involved with sundew study. Their functions interested him, and their reactions to stimuli amazed scientists.

One portion of his studies show his research with stimuli.

"After feeding the leaf pods insects, beginning actions of digestion took place. Then on other leaf pods sand, then glass, then artificial insects were placed; however, the plant would not react to the foreign matter. The plant knows! It appears to sense that these materials are not food it can utilize. The leaves won't curl, the tentacles do not react, and no juices form. Amazing!"

Darwin's studies showed that sundews are indigenous to nearly every continent of the world and grow in abundance wherever acid soil and damp swampy places are found.

Each sundew leaf pod, botanists agree, catches on the average an insect, digests it, opens and closes three times. After that the leaf pod dies. However, a well-nourished sundew will continue to sprout new leaves and each leaf continues the trapping process, all a part of the natural balance of nature.

During the past few years, botanists have been in agreement that sundews are disappearing from the state, but no specific causes are given. The smaller star-shaped variety (the kind that bears two or three white five-petaled flowers) and the larger heavy-red species still are found abundantly during summer months in wet, sandy, pine lands all over Louisiana.

Louisiana's other prevalent species of insect-eating plant, the pitcher plant, was found in the New World when the Spaniards arrived. The Spanish gave them the name pitcher plant because their long conical leaves formed a distinct cone and the bottom contained water, reminding them of a group of small pitchers.

A tough and hardy species, pitcher plants grow best in warm climates where they flourish nearly twelve months out of the year in some cases. In colder regions, however, the leaves wither with the coming of frost. Botanists relate that the varieties found in Louisiana seem to do well almost year round, though the summer months produce more healthy plants.

Regardless of the climate and the environmental conditions, roots of the pitcher plants survive the bitter winter and release new leaf shoots from deep freeze when the first spring thaw arrives. At this point a new cycle of insect-eating begins.

The entire plant system grows from a pod, which first hugs the ground. Then as it grows in length, the leaf gradually widens toward the top, and a half-grown leaf resembles a pea-pod plump enough for shelling. The growth pattern continues until a full conical pitcher is formed. What looks like a hinged flap covers the opening of the leaf rim at the top of the cone to keep the pitcher portion from flooding in a rainstorm. At this point the plant is functioning at peak potential, luring and trapping insects to support its life form.

Pitcher plants draw up water from the surface of the ground until the leaf is partially filled. Cells on the inner surface of the collar manufacture a sickly sweet perfume, typical of insect-eaters, and this odor used with the deep coloration of the varied species greatly influences attractive properties in the plant system.

Of all the carnivorous plants found in the world, pitcher plants are the most spectacular. There are about nine species in all, but because the plants hybridize so freely (mix in species and origin), specific identification often is difficult for untrained observers.

Among the various species are the parrot-heads, the purple pitcher plant, the sweet pitcher plant, the crimson pitcher plant, and the yellow pitcher plant. They vary in coloration from deep green to near purple or yellow, are somewhat different in heights and physical shapes, and sport either longer or shorter leaf lids than related species of unhybridized origin. Although only true identification can be made by an experienced botanist, the most reported species of plant in the state are the crimson and purple pitchers.

The crimson pitcher plant is the most beautiful of the species, having slender leaf stems, soft green coloration, cones often 24 inches tall, and crimson flowers about three inches in diameter. The leaves form trumpets that become more inflated near the top and are veined in white and red. Like all pitchers, it blooms in spring, but the leaves often retain their beauty into fall. They will not grow except in acid bogs.

A bulls-eye look down the barrel of the leaf cone shows the darkened area of activity in the pitcher plant's system. The lip, the hood, and the proximal portion of the inside of the cone all secrete attracting fragrances to lure prey. Deeper down the barrel, there are thin, slippery hair-like projections that point downward, preventing the escape of any insect that happens into the plant. The hairs also secrete a lubricant responsible for the insect's plunge into the fluids below where decomposition and utilization take place.

The purple pitcher plant has brightly colored leaves, often mottled in yellows and reds. These plants are often taken for flowers, but the leaves are the pitchers that catch and absorb unwary insects. Sprouting leaves four to eight inches high and much inflated, the lids do not curve over the hollow stems but are erect, flared, and ruffled. The flower, sometimes three inches across, is surprisingly large for the slender six to eight inch stem. Its typical color is reddish purple, but near the coastlines of Louisiana the color turns a more rose or burnt orange.

Unlike sundews, pitcher plants are passive. Every insect they catch is trapped and ingested by the potluck method. Where the sundew uses only a portion of the insect and allows the skeleton to blow away in a breeze, the pitcher plant utilizes the entire insect.

Pitcher plants have no tentacles to employ, as does the sundew. Neither are they capable of wrapping leaves around their prey, or snapping shut on tidbits of nourishment. In its need for nitrogenous foods, the pitcher plant secretes a sweet juice (coupled with its coloration) which attracts insects inside the conical leaf. Botanists are studying the intoxicating effect of the secretions to see whether or not this is a primary part of the process.

Secretions come from the underside of the lid, the seam which forms the cone shape, and the neck and rim of the plant. On the inside of the pitcher grows tiny, white, almost-microscopic hairs which are slippery to the touch. Insects are attracted to the plant, crawl up the outside, over the lip or rim, and start down on the inside. However, when they reach the slippery hairs, they lose foothold and plunge in a slide down into the fluid in the bottom of the plant. There the insect drowns and decomposition begins. Even should the small insect manage to stop its downward slide momentarily, escape is futile since the hairs, in nature's construction, point downward and act like bars on a jail cell, keeping the insect locked inside the plant in a maze of projections. As it struggles to wrench free of the projections, invariably it loses foot-holding potential again and finally slips into the fluid.

Eventually, as the plant requires it, chemicals and enzymes manufactured in the plant system react with the decomposing insect, and the pitcher plant maintains a stockpile of nutriments within the leaf cones, ready whenever necessary. It is uncertain whether the concentration of nutriments collected in the fluid by chemical action ever become greater or remain at a constant.

Many pitcher plants examined in acid bogs around the state contained no juices in the cones. All they held were completely dried insects, beetles, flies, worms, and such other forms, clogged in the cavity nearly to the rim of the conical pitcher. Research proved that the leaves on these plants began deteriorating from the top and continued to deteriorate until the leaf cone had completely disappeared. Botanically, the leaf had served its function, and possibly during the same summer it would be replaced by another active leaf. Many full grown plants, even in late summer, contain new shoots that often never mature before the winter winds wither them.

It follows that the leaf cone works for the plant, and the plant regulates by the number of pitchers it supports the nutriments it requires to survive successfully. Also uncertain is the process by which the pitcher plant absorbs and assimilates what substances it requires. Whether it be by osmosis, circulation, or whatever, the plant continues to flourish.

It is interesting to note that the insectivorous species all have a function in the natural balance. They act as control mechanisms for insect overpopulation, and one Louisiana landscaper advocates the planting of insectivorous plants in adjacent flowerbeds as a form of organic gardening, whereby chemical insecticides would be eliminated.

From an insect's point of view, the flowering portion of the pitcher pl

Additionally, the plants serve as life support forms. A type of caterpillar, Papaipemia appasionata, a rather

d, silhouetted against the blue of the sky.

The flowering portion of the pitcher plant, depending upon species, grows anywhere from an inch to three inches in diameter. Scientists marvel at the creative complexity of the flower pod, supported over the "feeding" trumpet-like leaves on a slender, delicate stalk.

impressive species with a rather impressive name, climbs up the plant, eats the tender leaves of the pitcher cone, sips the juices from the bottom of the inside, taking nourishment from the water, and then crawls away with a full stomach, almost as if he had dined in a private cafeteria in the bog. Interestingly enough, although the caterpillar destroys the leaves of the pitcher plant, the plant has no way of capturing this potential meal because nature has equipped the caterpillar with a type of traction shoes which keeps it from sliding down the slippery hairs and into the fluid below

Certain mosquitoes hatch out eggs in the water of the pitcher plant, and somehow the eggs are protected against the digestive juices. Unaffected, they fly away as full mosquitoes without ever having contributed anything to the plant, but having gotten life from it. Some species of moths and flies, which also are protected against the fluids, use the pitcher's cone as an incubator and cafeteria and use the leaf's lid as an umbrella during a rain storm.

Man even uses the insectivorous plant to his benefit. Aside from the proposed organic gardening concept, a species of sundew is used by the people of Portugal as an insect trap. The plant grows so large and catches so many insects, local residents hang the circular leaf pods indoors to rid their homes of flying and crawling pests.

The beauty of the pitcher plant and the sundew, the uniqueness of the species of both, and the complexities of all of nature's most interesting members of the plant kingdom fascinated Darwin and the first Spanish explorers. They have through the years afforded equal fascination for the hunter, the outdoorsman, the naturalist, and others, all the way down to the schoolboy. So it would be a safe assumption to anticipate that these vegetarian insect-eaters, these little "potluck posies", will continue to give cause to a fascination not likely to cease anytime soon.

STRIPED BASS . . . WELCOME BACK!

BOB DENNIE AND ARTHUR WILLIAMS

Fishing in Louisiana is probably the greatest form of outdoor recreation. Anglers that are serious about their sport can find good fishing all year long. And, believe it or not, it should get a great deal better in the very near future. Wildlife and Fisheries biologists have been hard at work to introduce a species of fish into our state fresh waters that is capable of breaking the heaviest bass outfits in use today.

The world's record for this beautiful finned monster was recorded in Edenton, North Carolina in 1891 at 125 pounds! I am referring to the striped bass or "rockfish".

This large voracious fish is very similar to Louisiana's well known yellow and white bass, with a few striking differences. Maximum size is probably the greatest difference. A large white will reach about 4½ pounds maximum while a big yellow bass will hit 2 pounds. South Carolina boasts the largest from freshwater with a specimen that went 52 pounds.

You may wonder why I mentioned a record of 125 pounds and one of 52 pounds, well that is because the striper is an Anadromous Fish, but not completely. The term anadromous simply means that they live in salt or brackish water and leave only to spawn in freshwater.

Above—Large female striped bass on their way to the spawning grounds are captured and placed in large holding pool until they are ready to begin spawning. A fish this size can produce 5-10 million eggs. Above Right—The females are constantly checked by the biologist to determine the exact moment of the spawn.

The construction of Santee Cooper, a hydroelectric dam in South Carolina, dispelled this theory. The dam on the Santee River, completed in the 1950's trapped a number of adult stripers behind it and they began to reproduce. This history making accident started a whole new ball game.

The name "rockfish" was born out of the spawning antics that these fish go through. A single, large, female bass is usually surrounded by a number of smaller males. They will thrash about causing a great deal of commotion. This activity was likened to a rockfight by early observers while in reality it is the age old ritual of courtship and spawning. It is not uncommon for a large female weighing from 25 to 50 pounds to be accompanied by twenty smaller males.

The striper's value has long been recognized as both a food and a sport fish. In 1879 fingerlings were transported across the United States from the New Jersey River and stocked in the San Francisco Bay area.

As table fare, the striper comes highly recommended. Captain John Smith, self appointed minister of "Indian Affairs" in Colonial America, praised their eating qualities. Colonists with only one boat available were able to operate one net and catch enough bass to support them during the summer of 1623.

The colonists were quick to realize their value and inevitable limited supply shortly after landing at Plymouth. This concern was evidenced by an act passed by the General Court of the Massachusetts Bay Colony in 1639 which ordered that neither a cod nor a striped bass could be used as fertilizer for farm crops. A subsequent act of the Plymouth Colony in 1670 provided that all income from Cape Cod incurred from bass, mackerel, or herring be used to establish a free school in some town in that area. As a result the first public school in the New World was made possible through funds obtained largely from the sale of striped bass.

The Santee Cooper phenomenon was a boon to fisheries biologists as well as to fishermen. This fish was just what they had been looking for; a freshwater fish that rivals many saltwater species in size and desirability and a biological control for the very prolific gizzard shad that tends to over-populate most southeastern reservoirs. The self-sustaining population at Santee Cooper put the wheels in motion for the South Carolina Wildlife Resources Department, and they have played a very important role in developing striped bass culture.

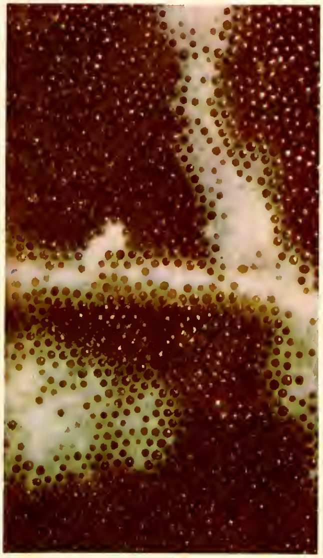
Many problems were to arise during the early course of the striper program but the rewards were high. A program

was quickly undertaken to establish the fish in other lakes in South Carolina. The spawning habits of this fish are such that certain environmental conditions must be met before successful reproduction can take place.

Stream flow must be sufficient to attract the stripers to the spawning grounds. No nests are built as the spawning takes place in the open waters of the tributary and no protection is offered the eggs once they are spawned.

The length of the stream and incubation in the open water causes stream flow to be critical. Striper eggs are slightly heavier than water. Therefore, the stream must have sufficient velocity to keep the eggs and sac-fry off of the bottom until the small fish begin feeding and are strong enough to fend for themselves. If they should sink to the bottom before they hatch or before the yolk sac is absorbed, they will become covered with silt or die from lack of oxygen.

Techniques to hatch this type of egg have been in use for several decades, but the problem has been to get enough fertilized striper eggs to make a hatchery practical. Eggs must be obtained from females that are in the process of spawning which presents the real problem. These females spawn their eggs shortly after ovulation and the chances of tagging a ripe but unspent female are slight. Modern science and dedication has helped to overcome this problem. Mature females are captured on their way to the spawning grounds. A sample of their eggs are examined microscopically and if development has reached a certain point, the fish is injected with a hormone to induce. Once injected, these females are held in aerated pools until ovulation occurs. They are then narcotized, and the eggs are stripped into plastic trays. Milt or sperm is then taken from a male striper taken from the river and then stripped onto the eggs. These fertilized eggs are placed in hatching jars which have a constant supply of freshwater moving through them. Enough water must be passed through them to keep them gently rolling and well aerated until hatching.



Once the eggs have been stripped from the female they are then fertilized by milt from the male striper. Left—Water is added to the fertilized eggs and slightly agitated. Ripe eggs must be stripped into plastic trays within one hour after the fish begins to spawn.

These techniques were worked out during the early 1960's by South Carolina. Louisiana, immediately, along with some other progressive southeastern states, became interested in establishing a striper fishery of their own.

Louisiana received its first striper fry in 1965 from South Carolina. These were stocked in ponds at the Monroe Hatchery as well as Beechwood Hatchery near Alexandria. Many problems kept the first years attempt from being a full success, but it was good in relationship to what had been accomplished in other states. Production was limited by several factors: lack of experience in this new concept of pond preparation, harvesting and handling, and last but not least pond space, personnel, and equipment.

Despite the first years problems the Louisiana Wild Life and Fisheries Commission was able to stock several thousand 2-to-5-inch fingerlings in Toledo Bend Reservoir and Lake D'Arbonne. The twelve to fifteen pound fish that are being caught in these two lakes and causing a great deal of excitement, are graduates from the class of 1965.

The following year, 1966, no fingerlings were produced simply due to limitations of the inadequate hatchery facilities.

The future of the striper in Louisiana became a great deal brighter during the years from 1967 through 1971. During this period 365,995 fingerlings were stocked in Lake D'Arbonne and 319,852 in Toledo Bend.

Toledo Bend, I might mention here, is also located in Louisiana. This may sound very obvious and absurd to many people, but I feel that it is worth mentioning. If we were to believe some recent stories in a few national publications one might be led to believe that this great body of water is the sole possession of the Lone Star State.

Two very dedicated Wild Life and Fisheries Commission biologists must be singled out as being major figures in the striper research. Janice Hughes, a Commission biologist in Monroe was responsible for working out many of the important techniques in the striper program. Sammy Stokes, Fisheries Biologist at Beechwood in charge of all hatchery operations, was also a major contributor in the program. They have stretched our hatchery production to its maximum limits and produced on a per acre basis as many stripers as any state in the southeast!

Oklahoma, which also began in 1965, now has a reproducing population of striped bass at the Keystone Reservoir. They were able to stock as high as 74 acres of hatchery ponds with fry. This acreage total exceeds our total by about 40 acres. Fisheries have been established in Lakes D'Arbonne and Toledo Bend. Fishermen are actively seeking the great fighters. Toledo Bend boasts the largest confirmed striper at 18 pounds.

Top, Left—A fine mesh net is used to remove the fertilized eggs to aeriated hatching tanks. Middle, Left—Eggs are placed in large well aeriated tanks that keep them moving and "unsilted" until they hatch. Bottom Left—Back in Louisiana at the Beechwood Hatchery near Alexandria, a group of small stripers that were raised by Commission personnel are removed from the ponds and placed in holding tanks.

A young striper on his way to being stocked in a Louisiana Lake.

A twelve pound gravid (carrying eggs) female was taken in the headwaters of this Louisiana reservoir and was probably moving up-river to spawn.

Studies indicate the fish stocked in 1967, which range from 6 to 10 pounds, might have the population density to spawn this spring. Intensive sampling is being conducted in both lakes to determine if successful reproduction occurs.

The Commission's present goal is to establish a reproducing population in our own state. Toledo Bend and Lake D'Arbonne are probably the only two lakes which have the physical requirements for natural reproduction. Once reproduction occurs and we are assured a supply of fish, we will move to other areas of research.

Hybridization of the white bass and the striper is a future program that Commission biologists are anxious to set into motion. South Carolina has been successful in this program on a limited basis and the results look very promising. The offspring from this cross is evidently faster growing and more voracious than either parent. It quickly reaches a weight of 12 pounds and is quite easily caught by sports fishermen. The yellow and striped bass cross is also a possibility. The importance of such investigation is heightened when it is noted that gizzard shad make up 95 percent of food for both the hybrid and the striper! A striped bass weighing 25 pounds is capable of utilizing a shad which has become too large for our biggest largemouth bass.

Louisiana has not limited its investigations to freshwater. Attempts are being made to obtain fry from the northern strain of striped bass which are truly anadromous and spawn in the fresh water rivers which are tributary to the Cheseapeake Bay. These rivers are slow moving and are greatly affected by tidal flow. The same is true of many of our coastal rivers. The eggs of these stripers are bouyant and do not require long stretches of turbulent rivers to hatch.

Rivers such as the Tchefuncte, Tangipahoa, and Pearl, had striped bass populations not too many years ago. Extensive studies in 1967–69 failed to turn up any fish at all. The disappearance of this fish from our coastal areas was possibly the result of the reduced stream flow which attracted the fish.

The mouths of these rivers have been channelized and flow reduced during critical periods. The present tidal fluctuations are similar to those found in Maryland, and it is hoped that these rivers will meet the environmental requirements of this northern strain of stripers. Obtaining eggs from Maryland has been extremely difficult. Commission biologists have worked long and hard to make this program a success. This particular aspect of striped bass culture had never really been developed until Louisiana got into the act.

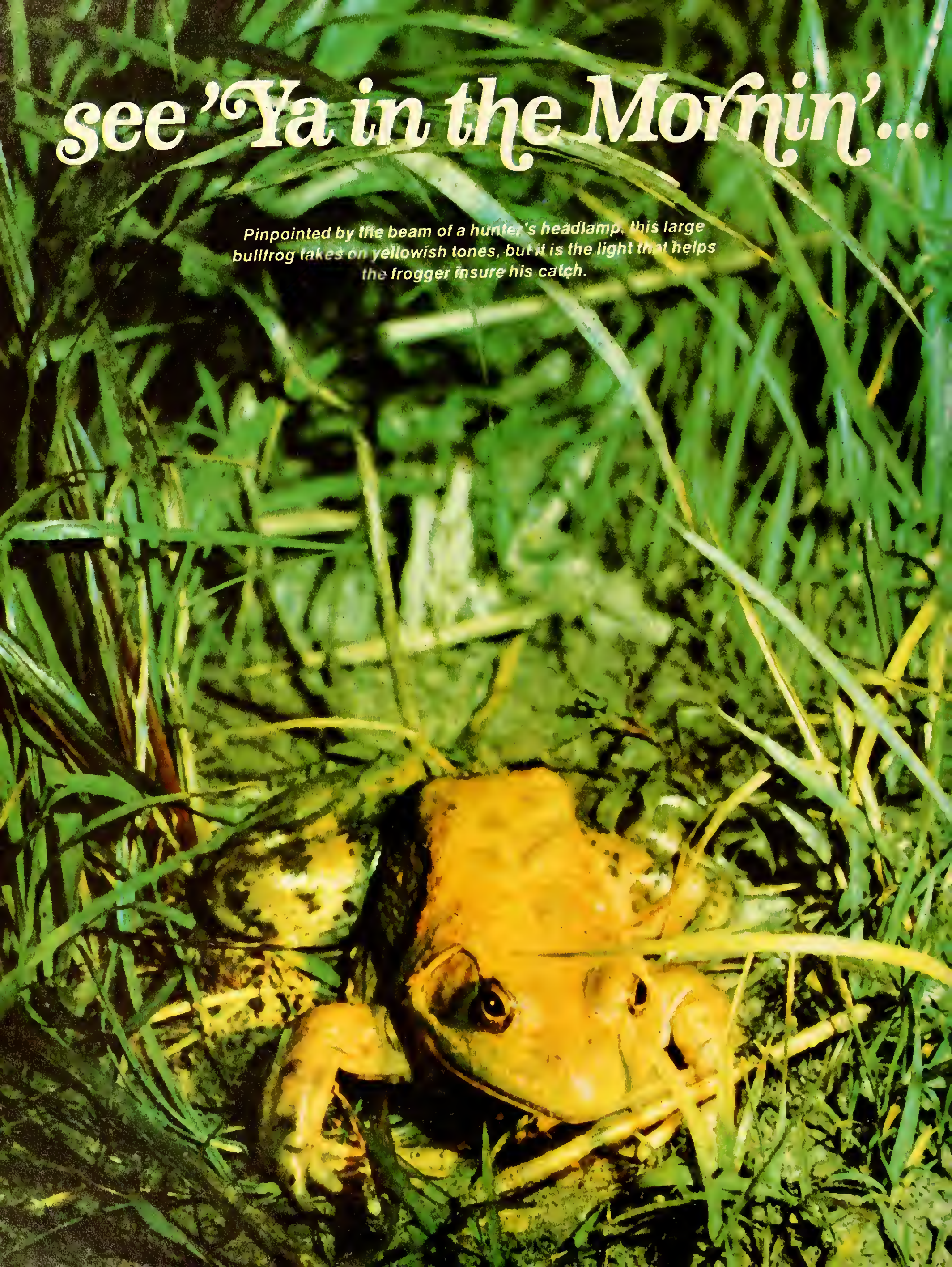
When spring arrives the personnel involved made ready with all the necessary equipment and were ready to make the long trip to Maryland. When the fish began to move into spawn we were notified by Maryland fisheries personnel. Once at the site the Louisiana biologists rapidly set up their maze of equipment. Time was the paramount factor so sleep was a rarity and when it was available it was done in shifts so that the operation was under constant surveillance.

Due to numerous problems that beset any new and unfamiliar project they had to develop techniques as they went along on a trial and error basis determined by what limited scientific information that was available on this buoyant egg. With all of these hurdles to overcome they experienced some erratic results.

Success in this program on the northern strain of stripers may provide the same type of fishing off our coast which is so popular along the eastern seaboard.

The outlook is excellent and Louisiana fishermen are at the doorstep of a new and exciting era of fantastic fishing in our larger lakes. Thanks to a great deal of foresight by the Commission, a great deal of hard work and dedication better sport fishing appears ahead . . . not to mention a few fish that got stuck behind a dam and couldn't get out . . . so they made the best of it . . .

see 'Ya in the Mornin'...



Pinpointed by the beam of a hunter's headlamp, this large bullfrog takes on yellowish tones, but it is the light that helps the frogger insure his catch.

'gone Froggin'

Photography By Lloyd Poissenot

Froggers set up a system by which each man in the boat has a job to do, whether it be looking for frogs, holding the light, or running the outboard.

Usually it is the fellow in the front of the boat who gets all the action, for after a frog is spotted it is he who sprawls out over the bow and grabs the loud-mouthed amphibian.

A LIGHT MIST SETTLED over the swamp and converted instantly into hazy fog just above the murky water's surface. Overhead, a faded moon in its last quarter dimly lit the river system, casting shadows in the soft glow.

But moonlight wasn't the only light this night. All through the trees that lined the river bank, long shafts of concentrated light pierced the darkness, as if searching for something special. Breaking the nocturnal silence were superimposed sounds of outboard motors pushing small boats up and down the interwinding waterways.

But all this was not out of the ordinary, for it was June 1, and Louisianians were there making the very best of the first day of a ten month season of frog hunting, one of the state's most popular nocturnal hunting sports.

Closed only two months out of the year, April and May, frog season in Louisiana runs from midnight of June 1 to midnight of March 31, annually. Contrary to what you might believe, the sport carries with it a very large following, for there are portions of southern Louisiana where wives of dedicated "froggers" classify themselves as "frog widows," sharing the same anguishes as do "golf widows," "football widows," and "poker widows."

Reportedly, at times the husband's compulsion to go frogging is so great, the wife, and sometimes the entire family, takes up the sport of frogging just to be with him. Consequently, in this case frogging becomes a sport for the family, not only the husband.

Any frogger will tell you it all stems from the pleasure and ultimate tasty reward the effort brings. It is a "finders-keepers" sport and a cool, relaxing way to collect enough frogs to put an expensive-type meal on the family table.

When you take into account the taste appeal of a platter full of frog legs and the entertainment derived from good companionship topped by a night out hunting, probably between now and March 31 next year there will be many "widows" who find notes tacked to the frying pan, saying, "See 'ya in the mornin' . . . gone froggin'."

It is true that all frogs, whichever the species, are edible and only their small sizes keep most from becoming human food. But the state boasts of having two species which serve as an important commercially recognized food source—the bullfrog, by far the most sought-after frog, and the pig frog, a medium-sized species closely resembling the bullfrog.

The bullfrog, *Catesbeiana rana amphibia,* as he is technically known except when served with french fries, is the largest true frog in the eastern hemisphere and is found throughout the state except in saltwater marshes. Commonly seen sitting on cypress stumps and mounds formed by uprooted trees, old "bull" is listed as a delicacy by some.

Commercially he has been introduced successfully into many parts of the world and cultivated in some foreign countries, mainly Japan.

His so-to-speak kissing cousin, the pig frog, is the lily pad frog of Louisiana's freshwater lagoons and ponds of the coastal marshes. Equally as tender and delicious as the bullfrog, he gets his name by the sounds he makes, like those of a pig grunting in six or eight short bursts.

Although the bullfrog is the hunter's prime target, no frogger in his right mind would ever pass up a plump, choice pig frog.

Epicures with fancy taste buds attest that frog legs resemble thighs of chickens, having flesh that is white, delectable, and good enough even for second helpings. Restaurants that feature frog legs on the menu usually affix respectable prices next to them, proof of the popularity. Froggers, however, need not rely on a restaurant. All they need do to whip up a batch of fresh frog legs for tomorrow's dinner is locate a good spot in the freshwater marsh where bullfrogs and pig frogs are abundant and go out and catch them for themselves.

In addition to providing a tasty treat for the table, frogs, the most familiar of all amphibians, are unique in their development and have fascinated students of biology since first investigative studies were completed.

Bullfrogs temporarily blinded by the powerful beam of light make no attempt to flee. For this reason, capture by hand is the most preferred method of taking frogs.

Biologically, they go through the three interesting stages of metamorphosis (the passing of one form into another)—egg . . . to tadpole . . . to frog. As many as 20,000 eggs per female are laid in clusters which sometimes cover areas from two to five feet in diameter. The eggs hatch out into tadpoles, little missle-like creatures with a head and body resembling a frog, but with a tail resembling the middle and end sections of an eel.

Slowly they begin to form hind legs, then forelegs, and take on gradually the appearance of a true frog, but with a tail. However, *when* they actually become "frogs" brings up another interesting point. The bullfrog can regulate its metamorphic cycle, more specifically it can stay a tadpole or turn into a full frog anytime after three months, but on no regular schedule. Usually the species remains in the tadpole stage approximately a year, but in colder climates it might remain a tadpole for up to two years before emerging as a full frog.

As a tadpole the species is strictly vegetarian; but once it become a bullfrog it will eat only living things or things that move—insects, other frogs, salamanders, young turtles, snakes, mice, birds, worms, and fish.

Much of the frog's natural habitat is being altered, and consequently the number of loud-mouthed amphibians present a few decades ago does not correspond to the number present today. The creature, in order to prosper must, since it is amphibian, have both land and water, yet changing conditions in this state and elsewhere are limiting these requirements. Drainage, flood control, lake building, dredging, levee construction, and other such so-called "improvements" have destroyed much natural frog habitat.

The bayou country, on the other hand, has been more fortunate, in that bayous, lakes, canals, streams, swamps, bottomlands, and marshes continue to produce bumper crops of bullfrogs. Of course, this same area annually continues to produce bumper populations of froggers, too. And as has always been the case, demand exceeds supply.

In an attempt to alleviate this demand-supply ratio, the Louisiana Wild Life and Fisheries Commission recently conducted a study concerning the feasibility of cultivating bullfrogs. After lengthy research and investigation, it was found that the concept, though it seemed workable, was not economical, nor did it prove a success. Growth patterns were poor, production was low, and losses were great.

Properly prepared, frog legs resemble the thighs of chickens, white, firm, tender, flavor-filled, and good enough for second helpings.

BOB DENNIE

Because bigger frogs find some out-of-the-way spots to take up a feeding vigil, it is not unusual that a frogger, in order to bag a plump one, get his feet wet.

Greater attention, biologists said of the situation, will be devoted to the stocking and restocking of favorable frog habitats in the wild.

As far as the frogger is concerned, he still has much to look forward to. For ten months out of every year bullfrogs, in booming, bellowing sounds, call him into the swamp nightly, and after a good rainstorm it seems as though they all call at once.

Necessarily, frog hunting is a nighttime affair, mainly because the grumbling critters are much too alert, tricky, and quick to be taken during daylight hours. Most froggers pair off for a night's hunt, and one man operates a small outboard while the other positions himself in front of the boat and prepares to capture the frog once it's spotted.

Bullfrogs and pig frogs usually come out of the water at night to feed, frequently taking up a position on the bank of the river or stream or marsh, and right at the water's edge. Froggers traveling the river use headlights or strong flashlights to search the banks, looking intently for the two tell-tale shiny eyes as they go.

The law permits hunters to use lights and to frog at night, provided no guns are carried, the frogs are not speared, shot, or gigged, and that grabbers (mechanical frog catchers), if used, are blunted and will not redden or break the frog's skin.

Because the most popular and preferred, and by far the easiest, method of frogging is to capture the species by hand, most hunters (about 90 percent) do not use anything but their hands to catch them. Small frog nets on long poles sometimes are used, but even they are not widespread and as popular as the

But in the final analysis, it all boils down to the old saying, "a frog in the hand is worth a bunch of them on the bank." And they taste better that way, too.

"ketch-em-in-ya-hand" method.

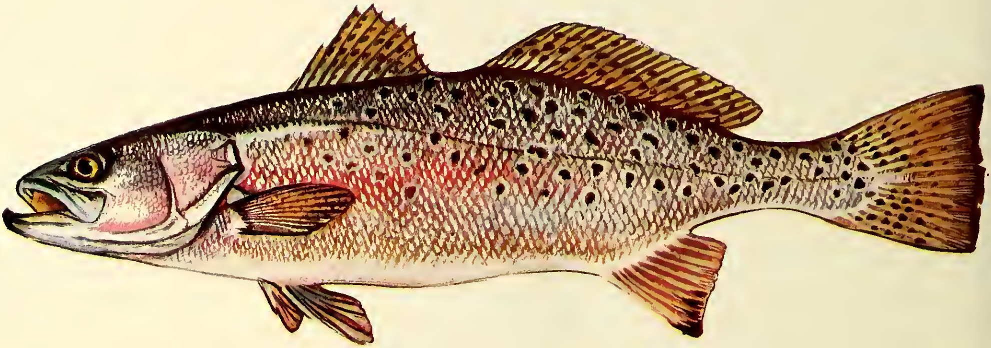
Working together two froggers in a boat set up a system. Something like this, it goes, "Whenever a frog is sighted, the guy in the front of the boat (who has been handling the flashlight while the guy in the back operates the motor) will hand the flashlight to his partner in the back, leaving himself free to make every effort to catch the frog. The man in the back of the boat will focus the light on the frog, being sure to keep it pointed directly into the frog's eyes, temporarily blinding him.

"Then as the boat is eased up to the bank where the frog is sitting, the guy in the front sprawls out over the bow and grabs the frog with both hands. Capture must be made on the first grab, otherwise the frog will leap away in a blind fear and, nine times out of ten, will escape. After capture, the frog should be placed in a wet burlap sack and the sack tied securely. When all this is finished, turn the boat away from shore, and start looking for another big, fat frog."

These are the instructions the old-timers hand out to all novices . . . and they work!

It is a common expression that "you always get your just reward in the end." And in frogging, the just reward just happens to be a fine stock of tender frog legs . . . if you've followed the instructions to the letter. Assuming you had a good night and you sacked 40 big bullfrogs (not unusual at all), when you multiply these by legs you get 80, fried to a crisp golden brown. And that, literally, is the "taste of success."

ILLUSTRATED BY DUANE RAVER, JR.



FISH OF LOUISIANA

SPECKLED TROUT

(Cynoscion nebulosus)

One of Louisiana's most popular species, the speckled trout, also called spotted sea trout, squeteague, and weakfish, is a mainstay of coastal waters all the way from New York to Mexico, but found most abundantly in the shallow waters off Louisiana and Florida.

A fish of excellent food value, the trout, not a trout at all but rather a member of the same family to which croakers, drums, redfish, and spots belong, is sought-after in this state both commercially and by sports fishermen. The meat is firm, white, and is of a delicate, full-bodied flavor and can be prepared by frying or broiling, or in a variety of different sauces. Not only are the fish easily scaled, but they fillet about as well.

Anatomically, the speckled trout is an iridescent fish that sports various colorations over its elongated body. Bluish-black to grayish silver mingled in bronze overtones across its dorsal side, the trout's colors fuse into a silvery to shiny white on the underside. Principal identifying features include an array of scattered black dots or spots that run along its back, through its dorsal fin, and throughout its tail. The fish also has a protruding lower jaw and an upper jaw that projects two long, pointed teeth called "canines."

Listed as one of the sportsmen's favorites, the speckled trout is caught practically year round in Louisiana, though May through September are the best months, with May and June being prime season. The fish are ferocious fighters, while not tackle-breakers, and are more notorious for "shaking a hook" and getting away than for popping a line. Studies indicate that they prefer live shrimp to any other form of bait, but because of their make-up they will "strike" other forms of live baits (small fish, crabs, and so forth) and a wide selection of lures from spoons, to plugs, to jigs, to bass worms. Matter-of-fact, some of the largest catches reported were said to have been made on what normally is considered "standard bass baits."

Prolific fish, speckled trout sometimes produce more than a million eggs per female and investigation by marine biologists indicate that probably a half to a third of them survive to be fertilized at spawning season.

The species is highly sensitive to cold temperatures and usually seeks out the warmer coastal waters. Trout usually do not venture out into the open Gulf, but many are found in the warm waters around and under oil rigs some distance offshore. During the summer months when temperatures are high, surf fishermen clad in tennis shoes and shorts angle for them off Grand Isle and the islands in the Gulf, where trout ranging in weight from two to eight pounds cruise the shallows looking for small bait fish.

Because they tolerate varying salinity well, it is not uncommon to catch them in fresh as well as salt water. Popular methods of fishing trout include, aside from surf fishing, still fishing and trolling. Still fishing is best accomplished by casting out lures or live bait and retrieving on a level where trout are known to be feeding. Trolling is the manner by which a plug or lure is trailed behind a boat moving forward at a slow speed. Whether one method is better than another is not determined.

Average weight of the species is approximately one-pound, eight ounces, but the largest fish on record tipped the scales at 15-pounds, 3-ounces. Louisiana's state record speckled trout, caught in May, 1950, by Leon Mattes, is 12-pounds, 6-ounces. The record has yet to be beaten.

For the second consecutive year, Louisiana has produced successfully a breeding and nesting colony of brown pelicans on several small islands near the Louisiana Wild Life and Fisheries Commission's Grand Terre Marine Laboratory. Biologists banded seven new "additions" last year and 18 this year, and the birds, which had virtually disappeared from the state, now comprise a total population in Louisiana of 225.

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